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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,448	01/16/2004	Chenghong Li	34393	7830
23589	7590	02/27/2006		
HOVEY WILLIAMS LLP 2405 GRAND BLVD., SUITE 400 KANSAS CITY, MO 64108			EXAMINER JACKSON, MONIQUE R	
			ART UNIT	PAPER NUMBER
			1773	
DATE MAILED: 02/27/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,448

Applicant(s)

LI ET AL.

Examiner

Monique R. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-77 is/are pending in the application.
- 4a) Of the above claim(s) 1-22 and 37-77 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election without traverse of Invention I, Species B in the reply filed on 11/30/05 is acknowledged.
2. Claims 1-22 and 37-77 have withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/30/05.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. With respect to the rejections recited below, the Examiner takes the position that the “microelectronic structure” limitation in the preamble provides no additional structural or material limitations to the claimed coated substrate.
5. Claims 23, 26-28, 30, 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Myers et al (US 2002/0185199 A1.) Myers et al teach a coated metal sheet comprising a metal substrate and a polymer coating applied to the metal substrate wherein the metal substrate is preferably pretreated to improve adhesion of the polymer coating, such as with an interlayer of a silane coating, and wherein the polymer coating may be an acrylonitrile-styrene copolymer or an ABS resin (Abstract; Figure; Paragraphs 0046-0047 and 0086; Claims 19, 34 and 35). Myers et al teach that the interlayer may be any thickness sufficient to enhance adhesion of the coating

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but is typically between about 0.01 to about 30 microns; and the thickness of the polymer coating is preferably in the range of 0.5 to 30 microns wherein the polymer coating may be formed from multiple layers or coats applied in series, hence reading upon a second protective coating layer (Paragraphs 0047, 0111, and 0123; Claim 62.) Myers et al further teach that the polymer coating may be applied by dissolving the polymer in a suitable solvent and coating via known methods (Paragraphs 0087-0090 and 0117.)

6. Claims 23, 24, 25, 30, 35, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Oda et al (USPN 3,468,834.) Oda et al teaches an acrylonitrile-butadiene-styrene coating solution comprising an ABS resin, a good solvent selected from methyl ethyl ketone, methyl isobutyl ketone and ethylene dichloride, and a diluent; wherein the ABS resin consists of 10-30 weight percent of acrylonitrile, 20-60 weight percent of butadiene, and 30-70 weight percent of styrene or alpha-methyl styrene, in polymeric form (Abstract; Col. 1, lines 35-53.) Oda et al teach that the coating solution is particularly suitable for forming an anticorrosion coating on metallic materials and water-proofing and moisture-proofing of materials (Col. 1, lines 69-72.) The coating solution may be coated upon a layer of a previously applied coating composition and/or may include an undercoat/primer comprising the coating solution and a thermosetting resin or styrene monomer (Abstract; Col. 1, lines 63-68; Examples.)

7. Claims 23, 26, 27, 30, 35, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis et al (USPN 5,353,705.) Lewis et al teach a lithographic printing member comprising a metal substrate 106 with a silane adhesion promoting layer 108, a secondary ablation layer 104 adhered to substrate 10 by means of the adhesion-promoting layer 108, a radiation absorbing layer 102 on top of the secondary ablation layer 104, and a surface layer 100; wherein the

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secondary ablation layer may be formed of styrene/acrylonitrile polymers, and has a minimum thickness of 1 micron, preferably a working thickness of 4-10 microns (Abstract; Col. 7, lines 60-68; Col. 11, 13-36; Col. 10, lines 26-43; Claims 5, 10, and 17.)

8. Claims 23, 27 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Plueddemann (USPN 4,800,125.) Plueddemann teaches coupling agent composition comprising a diamine functional silane compound used as primers and coupling agents for a widely varied combination of thermoplastics and substrates wherein Plueddemann specifically teaches the use of the primer for thermoplastic acrylonitrile-butadiene-styrene (ABS) adhered to a glass substrate (Abstract; Col. 3, lines 42-62; Example 3, Table 3a.)

9. Claims 23, 27 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Humphries (USPN 3,826,709.) Humphries teaches coating acrylonitrile-butadiene-styrene (ABS) resin on a phosphated steel surface by first applying a primer of an ABS resin in the form of a solution to the steel (Abstract.)

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 24, 25, 29 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al. The teachings of Myers et al are discussed above. Myers et al further teach that the metal sheet may be coated with more than one application using at least two different types of polymer coatings wherein suitable polymers include the ABS and AS resins mentioned

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above as well as chlorinated polyethylene, polyethylene chlorinates, polyvinyl chloride, polyvinyl fluoride, vinylidene chloride resins, fluorine resins, fluorocarbon polymers, and fluoroplastics such as PTFE, FEP, PFA, CTFE, ECTFE and ETFE; wherein Myers et al teach that based on the particular application or use and other pertinent considerations, an appropriate choice of polymer can readily be made and the polymer coating layers may be tailored to impart known characteristics in the art such as corrosion resistance, improved hardness, weather resistance, chemical resistance, etc. (Paragraph 0118; Claims 34-36 and 38.) Hence, given the teachings of Myers et al, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide multiple polymer coating layers and to select from any of the suitable polymers disclosed by Myers et al for each layer, wherein it is particularly known in the art that ABS resins can advantageously be provided with a protective layer of halogenated polymer. With respect to the primer or interlayer, though Myers et al teach that a silane compound may be utilized to provide improved adhesion between the substrate and the polymer coating, Myers et al do not specifically teach the instantly claimed silane compound. However, one having ordinary skill in the art at the time of the invention would have been motivated to select from any commercially available silane compound, including those instantly claimed, and further to determine the optimum commercially available silane compound based on the selected substrate and polymer coating material. Lastly, though Myers et al teach AS and ABS resin coatings, Myers et al do not specifically teach the amount of acrylonitrile and styrene in the copolymer resins, however, considering the weight amount of each monomer component is a result-effective variable, one having ordinary skill in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the optimum amount of each

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monomer to provide in the copolymer resin based upon the intended end use wherein weight amounts as instantly claimed are typical in terms of AS and ABS copolymers utilized in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508.

The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Monique R. Jackson
Primary Examiner
Technology Center 1700
February 21, 2006